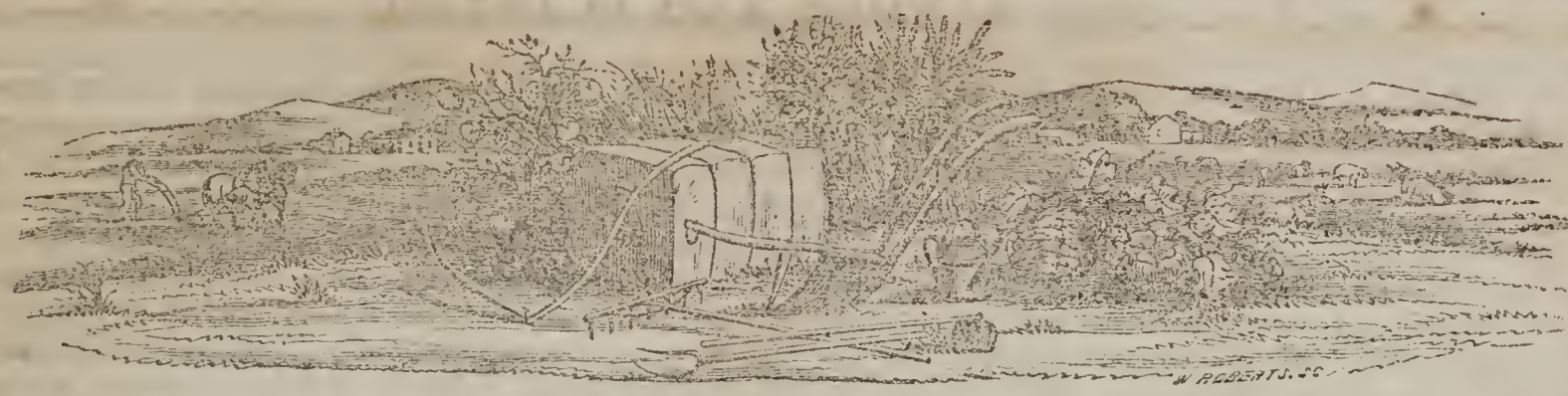

FARMER AND PLANTER.

DEVOTED TO AGRICULTURE, HORTICULTURE, MECHANICS, DOMESTIC AND RURAL ECONOMY.

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Manures.---No. 2.

Their Uses. History, Modes of Preparation, Comparative Value, Rationale of their Causes of Action, Etc. Etc.

BY PROF. J. J. MAPES

Liquid Manures.—The Chinese have long used manures in the liquid form, and a mixture of water with night soil, is considered by them as superior to all other manures. Virgil, Cato and Columella, all speak of the use of liquid manures.—Putrid manures for vines and apple trees, and grape stones fermented with water, were used in Italy in the time of Nero; and the lees of oil seems to have been used for the same purpose. Evlyn recommends the dung of cattle, urine, salt, lime and nitre. A mixture of lime and salt in the proportion of two of lime to one of salt, has been long used, and the only difference between the methods now in use, and that of our forefathers, was in the manner of making the mixture.—They placed the lime and salt together dry, suffering the lime to air slake, and the salt to become combined without the addition of water, turning the mass over occasionally, for three or four months; while we at the present day dissolve the salt in water, and with this solution the lime is slaked. (See our article on lime and salt.)

C. W. Johnson speaks of a Mr. Bennet, who has been in the habit of using the salt and lime mixture, and says:—"When mixed with water, and spread over land intended for wheat, at the rate of twenty-five to thirty-five bushels of the lime and salt, to ten or fifteen tons of water per acre, (and it answers very nearly as well when carried on to the land dry,) excellent results are produced.—The wheat which I have thus grown on clover leys, has been superior in height and strength of straw, to any I have seen produced under different modes of treatment, and the seed very bright and heavy."

It should be recollected that no substance can possibly act as a manure, *until actually in solution;* whether organic or inorganic, the plant is incapable of receiving it in any other state than that of gas, or solution in water. Johnson, Davy, and others, have tried various experiments on this subject, and all have concluded that no substance could possibly be reduced to so impalpable a powder, that plants could receive it without solution; therefore, we do not only require the presence of such food as is proper for plants, but also the means of rendering them soluble in water. It is for this reason that bones are so much more energetic when cobined with sulphuric acid. The action of sulphuric acid being to change the phosphate of lime into *super-phosphate*, by abstracting or changing part of the lime into a sulphate, and leaving the remaining portion in consequence combined with a double portion of phosphoric acid. Thus two atoms of phosphoric acid combined with one of lime, forms *super-phosphate of lime*, which *is soluble in water*, while the original material of the bone (phosphate of lime,) is not soluble before decomposition. Even silex, the base of flint, and principal compound of common sand, although apparently entirely insoluble, is rendered so by combination with potass and other alkalies, and when dissolved become food for plants, giving strength to woody fibre, and coating the outside surfaces with a varnish-like face of siliceous matters. The bamboo, rattan, and even the corn stalk, contains so much silicious matter on their surfaces that a knife may be sharpened upon them.

The Greek and Egyptian philosophers mistook the necessity of solution for the direct action of the water on vegetable growth, and thus water was considered by many as the only food for plants.—The marked effects produced by the overflowing of the Nile, helped to perpetuate this error. As late as the year 1610, M. Von Helmont, a celebrated Dutch chemist, promulgated the same erroneous doctrines.

Davy observed that no manure could be taken up by plants unless water was present, and entirely failed to induce the roots of plants to receive finely powdered charcoal in its pulverized state.

General St. Ledger is said to have first used bones as a fertilizer in the year 1772, since which time, the bone dust and turnings of the Sheffield cutlers have given an impetus to agriculture throughout Yorkshire which was previously unknown. Within sixty years these bone wastes were carted into Sheffield Moor, and burried in pits to get rid of them, but at the present time 600 tons are annually sold at Sheffield for manure.

Large tracts of lands supposed to be sterile, have been restored by bones to a

high state of culture, and when used for turnips, they are preferred by cattle and sheep to those raised with any other manure.

Some idea may be formed of the increase of consumption of bones in England, from the fact that the amount imported into Hull in 1833 was 17,500 tons, and by 1835 the importation had increased to 25,700 tons.

In 1821, the declared value of all the bones imported into England was £15, 898, but by 1837 the annual importation had increased to £254,600. Thousands of tons of burned bones used by the sugar refiners of New York, Boston and Philadelphia, have been thrown away without even experiment being made with them by our agriculturists. We were engaged many years refining sugar in New York, and not until the Freneh merehants had eommeneed to buy this refuse for shipment to France, could we induce the farmers to try burned bones as a manure.

Fish have long been used as a manure, but the eause of their deeomposition produeing proper food for plants has not so long been understood. Those used on the eoasts of Scotland and Cornwall are sprats and five fingers, while on our coast the herring, tom cod, and horse shoe are pricipally used. Suffolk county, Long Island, consumes large amounts of fish as mannre, and where phosphate of lime is desirable they answer an excellent purpose.

Saltpetre is the most ancient of the saline manures; it was reeommended by Virgil, when mixed with olive oil, as a steep for seeds. The verdant lands of Palestine abound with this salt. Googe states that the German farmers have used it for three centuries.

In 1676, Evelyn, in his Discoveries on Earth, tells us, "rains and dews, eold and dry winters, with stores of snow, which I reckon equal to the richest manures, impregnated as they are with eelestial nitre—I fiirmly believe," he adds, "that were saltpetre, I mean fietitious nitre, to be obtained in plenty, we should need but little other eompost to meliorate our grounds." Evelyn recommends saltpetre to be used in solution; three pounds of this salt to fifteen gallons of water, mixed with earth. In this way Sir Kenelm Digmy made some barley grow very luxuriantly by watering it with a very weak solution.

Common salt, although used by the ancients, and with good effect, seems to have gone into disuse again till a very late period. Indeed, from the time of William the Third to the latter part of the reign of George the Third, the duty on salt in England raised its price to an average of five dollars per bushel, and it was therefore too expensive for use as a fertilizer. It was known by tradition that it was formerly used to kill worms, and to destroy weeds; that it cleansed fallows, increased the produce of light arable soils and sweetened grass.

Johnson further states, that "every gardener was aware that the brine of the pickling tubs, when poured over his heaps of weeds, not only killed those weeds and their attendant seeds and grubs, but that these heaps were then converted into so many pareels of the most fertilizing manures, whose good effects, especially upon potatoes and earrots, were very decided."

It was well known, too, that a single grain of salt placed upon an earth worm speedily destroyed it; that if brine was placed upon a lawn, that from that spot all the earth worms were speedily ejected, and that if it was sprinkled over a portion of the grass, on this salted portion all the deer, or sheep, or horses of the park speedily repaired, in preferenee to any other part of the field.

Many errors have since oecurred by the improper use of salt, but when we reaeh that branch of our subject, in eourse, we shall give the rationale of its action and benefits.

Salt and lime was reeommended by Glauber as manure more than two centuries ago, and he notes that the results of the mixture are a compound of soda and muriate of lime, and "most fit for dunging lands, and to be used instead of eommon beast's dung."

C. W. Johnson says, "the very mixture of salt and lime was suecessfully employed in Ayrshire, many years sinee. And George Sinclair, in 1818, very nearly demonstrated at Woburn the value of this applieation. He however unfortunately applied the salt and lime separately; yet still with eonsiderable benefit.

The use of salt and lime was notieed in the year 1800 by Mr. Hollingshead, of Chorley, in Lancastor, who observes: "Lime prepared for manure should be slaked with salt springs, or salt water; lime so slaked will have a double effect." In 1804, in the experiments of the late Rev. Edmund Cartwright, upon potatoes of twenty-five manures, or mixtures of manures, salt and lime were found superior, in their produet of potatoes, to nineteen others. Mr. James Manley, of Anderton, in Cheshire, when giving his evidence before a committee of the House of Commons, on the salt duties, mentioned, that in getting marl (whieh is a mixture of carbonate of lime, alumina and silica,) he had found that, by mixing it with brine instead of water, the portion of the field on which the brined marl was used, yielded five bushels of wheat per aere more than that portion on which the water marl which was employed.

Ashes have been used for manures from the time of the Romans. Burning and paring is recommended by Cato.—Palladius says a manuring with burned twiggs and braneh̄es will last five years. The Jews of Palestine burned their stubbles.

Pliny says, the ancient Britons used to burn their straw and stubble, and spread the ashes over the land. Conradus Herebachius, a German Counsellor, in his *Treatise on Husbandey*, published in 1775, tells us: "In Lombardy, they like so well the use of ashes, as they esteem it far above dung, not meete to be used for the unwholesomeness thereof."

Gypsum, as it exists in ashes, is supposed by Johnson to be entitled to all the virtues attributed to ashes, or that ashes owe all their virtues to to the gypsum they contain. In this opinion we cannot coincide.

Although the aneients were not aware of the chemieal action of either gypsum or the other eonstituents of ashes, still they knew that benefits were reeeived by their use. Virgil directs the Romans to "scatter the dirty ashes over the exhausted soil, and to turn up and burn the stubble."

John Ainslie, steward to the Earl of Stair, very nearly discovered the use of gspsum 1728; he found great benefit to arise from the use of ashes made of peat, moss, &c. much of which was composed of gypsum.

Mineral gypsum was first used as a manure by M. Meyer, a german clergyman, in 1768, but he did not know its chemical composition or cause of action. It was long afterwards discovered to be sluphate of lime, (gypsum) but this fact was unknown to Meyer.

In 1792, H. Smith, of Highstead, noticed what has since been confirmed, that clover, manured by gypsum, is pre-

ferred by horses and cattle to all other clover.

Sir Joseph Banks recommended this fertilizer, and some years afterwards it was successfully brought into use under the recommendation of Mr. Grisenthwaite, since which its merits have been more fully understood, and in Dutchess county and in many other parts of the United States, its use has become general.

The use of guano as a manure has been confined, until a late period, to Peru, and its name, according to Humboldt, from the European mode of pronouncing the word "huanu," which in the language of the Incas of Peru, intends manure or dung.

Guano is now known to be excrement of birds, chiefly sea fowls, and the Peruvians held this manure in such high estimation that the birds producing it were protected by law. The Peruvian lands, on which it is chiefly used for grain crops, is composed of white sand and clay, and is described by Bousingault as of remarkable sterility. Gen. Beatson used it successfully in 1810, and at St. Helena, for potatoes, mangel wurzel, and as a top dressing for grass on a rather stiff soil, being composed of a blackish mould, intermixed with friable fat clay. Guano may be used with advantage on any land, but if improperly applied, often destroys the crop for that season.

In preparing the above article on the history and early use of manures, we have made free use of the facts given by Cuthbert W. Johnson, F. R. S., in his *Treatise on Fertilizers*, and we have done so with due respect to the interests of our readers, as no author can be more fully depended upon. Where we have referred the reader to our articles on special manures, we mean those articles which are to follow, in course, under the head of this article, and the next number will be devoted to fertilizers in general, the fourth to barn yard manure and its management, and thus in turn treat of every known fertilizer, collating all the facts now published, with our slight experience added, when important. Thus, when we shall have finished the series, it will be found fully to post up the current information of the day on manures. —*Working Farmer.*

(*To be Continued.*)

The ecstacy of dilight, like the intensity of pain, makes one stern and serious.

"O. K."—All Cotton.

Cotton seems to be the planter's God —the ever present topic of his daily plans and labors —the ideal master of his destiny in the dreary hours of the night.—From the "small hours of the morning" until the late hours of evening—from New Year's eve to Christmas morning, "Cotton" is his soul-absorbing theme.

Does the wife want this log-cabin converted into a kitchen, and a nice frame house built for a dwelling? "Oh! no, can't build; I am obliged to make sixty-five bags of cotton this year, only made forty last year, and now I must make up the deficiency."

"Well, husband, we must send John and Fanny away to school this year; you know our school-master can't teach any but small children."

"I say send them away to school!—Why wife they have got as much education as we ever had, and I reckon that must do them. No, John must help me 'oversee,' and Fanny must help you in the kitchen and about the house, so that you can let me have Chloe in the field.—That's the school they must go to. I don't believe in children being raised to know more than their father and mother; You can have Chloe back in the kitchen Sunday, and two or three more if company come then, but I must have them the rest of the time."

Visiting! "Fanny, all the visiting you and your mother do must be done on Sundays, I can't spare any of the horses on weekdays, without you wait until the "crops are laid by."

"Want to take the Lady's Book?"—"Well then you must get some of your friends to take it for you. I can't pay for it. The Chronicle & Sentinel is all I can afford to take, and I dont get time to read all of that. The Southern Cultivator will help me more than the Lady's Book would you, and I would take that but I don't know how I could pay for it."

Yes, I say chalk "O. K."—all Cotton, on his back; if that is not the right mark for him, I don't know what mark to give him.

This is not a picture of a small class of planters, and any body that knows anything about plantations and will confess the truth, will say it is a fair representation of a large class of planters. Home, comfort, the education of children—all must be sacrificed to the god—demon I had almost said—Cotton.

The family must stay from meetings on Sundays perhaps, or visit so as to take no horses from the cotton field on week days. The children must be kept from good schools, because the father wishes to increase his field force for making cotton. The wife must still be satisfied with the old log cabin, and the daughter tied to the kitchen, so that the old man may make the allotted maximum of bags of cotton this year.

This is wrong Mr. Editor, and now if you want to know my remedy for the evil, I will give it in eight words. Make two bags of cotton instead of three.—The corn, the wheat, the rye, the oats, the hogs, the mules, the horses could be raised on our own plantations. The planter would not then have to force the sale of his cotton to raise "hog money," or pay a ruinous interest on the money. He would require a smaller number of mules and horses to work his farm—he would have corn and fodder enough to keep his cows plump and sleek, besides keeping his mules and horses in fine order. Mrs. ——— could have her horses and carriage out even on a week day, if she chose, and go a "visiting." The son could be indulged, and the daughter too, and both sent to a boarding school, or a competent teacher could be employed that they might get through education at home. This would indeed be the old fashioned "O. K."—*all correct.*

Chronicle & Sentinel.] SYNTAX.

Mode of Preserving Shingles on Roofs.—A gentleman in Groton, gave us the other day the manner in which he prepared his shingles before he laid them on his house, some six years ago; and on examination, we found they had a perfectly sound appearance, as though they had not been laid more than a month.

He had a large boiler which he filled with whitewash, mixing with it about one pound of potash to four gallons of liquid, also about the same amount of salt. This composition he boiled, and while it was boiling, he dipped the shingles in, taking a handful at a time, and holding them by the tips. He had boards placed so that he could set his shingles on them on end and let the liquid, as it run off them, run back again into the boiler. The shingles he allowed to dry in this position before laying them, as his belief was, that by thus curing or hardening them, they would last much longer. They could be colored red or yellow, easily by mixing red or yellow ochre with the composition.

The expense for shingles on a roof, is

very considerable, as the most of those which we buy now unless, we go to a very high price in purchasing, last but a few years, and therefore something that will harden and preserve them like the above, and which costs but little in the application, will be thankfully received by owners of buildings.—*Spindle City.*

The Fruits of the Earth,

Their Protetection by Secluding them from the Action of Air, Water and Heat.

The atmospheric air coming in contact with fruits, deprives them of their carbon, and forms carbonic acid.

Fruits exposed to the solvent action of water, suffer decomposition by having the affinity existing between their constituent principles weakened and at length destroyed.

Heat dilates the particles of bodies, and thus diminishes the forces of cohesion and attraction, and favor the admission of air and water.

The combined action of these three agents produce very speedy decomposition. The effect produced by any one of them is slower, and the results different; so that in order to preserve them from decomposition, it is necessary to guard them from the power of these three destroyers.

In several European countries, particularly in the North, roots of all kinds are preserved merely by secluding them entirely from air, heat and water. This is done by diging deep ditches in a dry soil, upon a spot a little elevated, and depositing in them the roots, which are afterwards covered over with a layer of earth, of sufficient thickness to prevent them from suffering by the frost. Over the whole is then laid a bed of straw, broom, or fern, in order to protect them from rain, and from the water of melting snows, which might filter through into the pit.

Roots, to keep well, must have their surfaces entirely free from moisture, before being thus buried.

The roots have in themselves a preserving principle, which does not exist in a dead plant, or one that has terminated its period of vegetation. They have as yet lived but a portion of their vegetable life; they have not formed the seeds which secure the continuance of their species; and to fill this great design of nature, they profit by every circumstance which can favor and confirm their vegetation; but when placed for a time beyond the action of air, water and heat, their organs remain at rest till again excited by the presence of these powerful agents.

As dead bodies do not retain this animating principle, the energies of which are only suspended in roots, grains, &c. during the winter, so they suffer decomposition, though less rapidly, from the contact of air, heat and water.

In the way of which I have just spoken, beets, carrots, potatoes, and many other vegetables, may be preserved uninjured till summer.

A very simple method of preserving them at least free from decomposition, is, to heap them up in piles upon a very dry soil, and then to cover them upon all sides with straw enough to protect them from rain and frost. In England this is esteemed the best method of keeping turnips.

Vegetables may likewise be preserved by heaping them up in barns to the height of five or six feet, care being taken to cover them well with straw or hay at the commencement of the severe cold weather. Should the roots in these heaps begin to vegetate, they must be removed, and thus their further development checked.

Thomas Dallas has published some very important observations upon the modes of treating potatoes which have been effected by the frost. With us such potatoes are rejected, as being unfit either for food or for furnishing fecula. The able agriculturist above mentioned, considers them in three different states—first, when they are slightly touched by the frost; second, when the outer portion of their substance is frozen; and third, when they are frozen throughout.

In the first case he finds that nothing more is necessary, than to sprinkle the roots with lime, to absorb the water formed under the skin, which would speedily occasion their complete decomposition. In the second instance he causes the potatoes to be pared and thrown for some hours in water slightly salted. When the potatoes are completely frozen, he finds them to yield upon distilation, a spirituous liquor resembling the best rum, and affording much more alcohol, and that of a better quality, than can be procured from the roots before freezing.—*Chaptal's Ag. Chemistry.*

Hogs as Manure Makers.—The hog-pen should be supplied with fresh loam every day, in quantities sufficient to neutralize and keep down all unpleasant odour. A hog weighing 300 lbs. where loam is added as above, will make ten loads of excellent manure.—Wm. P. Gates, in P. Office Report.

Our April Number.

Messrs. Editors:—I am compelled to congratulate you on the monthly improvement of your journal—it is getting better and better, and only needs subscribers and contributors to make it one of the best. It is surprising that farmers will not foster and build up a journal devoted to their especial benefit. If you should visit a farmer and find his table covered with one or two trashy political papers, and no journal of agriculture, set him down as a sloven in agriculture—unworthy the name of a farmer; or should find a *Southern farmer*, whose table is lined with *political trash*, and *Northern journals of agriculture, and not the journals of his own State, mark him*, and treat him as one who hath no part nor lot in advancing the interest of Southern agriculture. The farmer, I care not how limited his circumstances, who does not cheerfully give the sum of $5, or even $10, for journals that are exclusively devoted to their interest, should blush for shame. I commenced the reading of agricultural journals in my fourteenth year, and to this fact I attribute that love for agriculture which now influences me.—There was created in me an ardent desire, although a school boy, to be a good farmer, this drove me from the city to take possession, at the age of 18, of the estate left me by my father, this desire still influences me, and now that I am aided by the information to be monthly gleaned from five journals of Agriculture, and a good library of forty or fifty volumes, I am flattered with the belief that I am slowly progressing. I did not intend writing about myself, yet would say to all young farmers, and even boys yet at school, go and do likewise. You will never repent it. It will be a source of *true pleasure* and profit. But enough—to the object in view:

Deep Plowing.—The author of this is right, "the first plowing is all the one that need to be looked upon with dread,"—plow deep, from 8 to 12 inches, no matter what the soil is, if it is thoroughly drained of all excess of moisture, both in surface and subsoil—go it up to the beam—the first crop will be injured. Now give the land two years rest, or seed down in wheat—manure, lime or marl it—seed also in clover or grasses, and my word for it you will smile for joy when you come to cultivate it, after it has been at rest or in clover two years. Experience backs me in this assertion, on stiff or light soils.

Heaves in Horses.—J. Libbey, of Eagle Harbor, New York, is correct in attributing this disease to feeding on dusty or mouldy clover hay. I have had horses suffering from the heaves—but my treatment differs somewhat from his. Give no more *Clover hay* but substitute *Timothy hay, finely cut*, moistened and mixed with hominey, and turn the horse on a good *Timothy meadow*, and he will soon be entirely relieved.

California Vegetables.—These remind me of a story told by an acquaintance—"that the pine trees of California bore acorns—that they were literally covered with acorns (like the Virginia White Oak), but that they were so large that farmers were compelled to pen their hogs till the acorns fell or they would all be killed, as they grew from the size of a turkey's to a goose's egg." Hard to believe, yet Californians assert it to be the truth.

Dwarf Fruit Trees.—Put not your faith in dwarfs—I have no fancy for dwarfs either in the vegetable or animal kingdom.

Good fences make good Neighbors.—Farmers, have you read this wholesome truth? read it again, and then go and practise it—It is the truth, the whole truth, and nothing but the truth.

Poultry Houses near Horse-stables.—The writer says, "I can speak from experience in this matter." Never acknowledge it again, my friend—"a lousy horse!"—for shame! Who but a drone would have a lousy horse? Stables are built for horses. Poultry houses for poultry—therefore separate them—birds of a feather should flock together.

Horses and Mules.—The author of this arrives at the truth in bringing his figures to state that the mule can be kept on *one-half* the grain that it will take to keep a horse. But a more erroneous idea never was hatched in the brain of man than this, that "*six barrels of corn*" will keep a mule 12 months "in good working order;" or that "12 barrels will keep a horse" the same length of time in said order. It is not so—and here is the proof: In 6 barrels of corn there is 3.300 ears of corn; now divide this 3.300 by 365 days, and it will give the small quantity of *nine ears per day to each mule*. This will answer if the mule has a good pasture *and is worked but little. Ten* to *twelve* barrels of corn per annum will keep the mule in "good working order;" and from 18 to 24 barrels will keep the horse in good order, *that is worked constantly*. Put your horses to hauling materials for making manure, after the crop is finished, and you can still afford to keep them. I should expect my mule or horse to get *quite lean* in this man's stables, and should therefore spend but a few days with him. Doubtless his "*craps are short*," therefore he feeds in the small way.

You are in a bad box, Messrs. Editors, with broomsedge, and neither lime, marl, nor ashes to conquer him—*burn him, I say, but plow fast or your neighbor will get your ashes—if Mr. Wind should be about*

Your ob't serv't, T. E. Blount.

Burleigh, Sussex Co., Va.,
April 18th 1852.

The Best Time for Cutting Timber &c.

Experience has proved that trees for timber, if cut at one season of the year, are far more durable than if cut at another. Various reasons have been suggested why this is so, and it is not yet perhaps fully determined; still as the time pointed out as the best for durability, is during the autumn, it is generally supposed that this property is modified by the amount of sap in the trunk, and the maturity of the wood itself. In the spring, or at any earlier period of it, the trunk of most trees is pressed with the ascending sap. The leaves as yet are still folden in the bud, and the surfaces for exhalation are only sufficient to carry off very slowly the watery part of the sap. Even after the leaves have expanded, or until mid-summer has arrived, the tree abounds in juices. When, however, the dry and sultry summer has arrived, and the new wood and buds have been matured and formed, the water part of the sap is mostly exhaled, and probably, too, the circulation is less active as the leaves become sere.

It is stated by Mr. Emerson, author of the valuable report on the trees and shrubs of Massachusetts, that the soft maple cut in September, is three times more lasting than ash or walnut cut in the winter; and from numerous enquiries which he has made in some quarters, and from information obtained from reliable sources, it seems he has established the fact that autumn is the time for cutting timber. When it is determined to cut timber, it is of considerable importance to strip off the bark in the spring, that the body of the tree may dry during summer. When, however, it is an object to reproduce a forest from the remaining stumps, then winter, or the very first of spring, is much more favorable to the growth of sprouts.

There are, then, two seasons for cutting wood; if it is expected to last, it must be cut the last of summer, or during the early part of autumn; if it is wished to clothe the surface with a new growth of trees, the cutting must be made late in winter.

It is, however, possible to modify these arrangements; if, for example, the wood is designed for timber, it is deprived of its bark in the spring, it may be allowed to stand and season till winter arrives, which is a period when farmers have less to do than in summer or autumn.

In seasoning, wood retains an amount of water which may be regarded as its constitutional supply. This constitutional water is very important; for upon its presence some of the most valuable properties of the wood depend. I refer to elasticity and strength. If wood, for example, is dried in a water bath at 212° till it comes to lose weight, its elasticity and strength is very much diminished.—Hickory, when dried in this way, becomes as brittle as pine. In ordinary seasoning, or in steaming, I believe the strength of wood is not diminished. This observation may not be of much practical importance, as this last plan of seasoning is but rarely followed. The amount of water varies, as will be observed, in different species of trees, as well as in herbaceous plants.

In another point of view the amount of water is important to be known, for the difference between taking green and dry wood to market, as well as consuming, is very great; and so, also, as ample experience proves, there is a material difference in burning green or dry wood. The quantity of water varies from 20 to 50 per centum, and probably the average amount will not differ from 35 to 40 per centum. This water is not only of no use to the fire-wood, but it is prejudicial, as it must be dissipated by heat, in which act heat or caloric becomes latent or lost, especially if the wood is consumed upon a hearth or in a stove.

In addition to the effect of water diminishing the combustibility of wood, the alkalies have also considerable influence of this kind. Elm, which is a potash wood, burns with much less freedom than hickory which contains much lime.

It is, however, possible that the size of the pores of wood may modify its combustibility. Black oak is a notable instance of a slow and drizzling combustion; the pores are large and numerous, from which the watery sap continually oozes.

In addition to the foregoing, we subjoin the following remarks from a letter written by Mr. Wm. Painter, of Concordville, Pa., to the Hon. Thomas Ewbank, of the Patent office. We had intended the preparation of an article from our own experience and knowledge, in reference to the subject of timber cutting, but our design was superceded by a perusal of the foregoing, and the letter of Mr. Painter.

"During an experience of more than forty years as a plain, practical farmer, I have taken much interest in ascertaining the best season for felling timber, and I now state with confidence, that fencing timber, such as all kinds of oak, chesnut, red hickory, and walnut, cut from the middle of July to the last of August, will last more than twice as long as when cut in winter, or common barking time in spring.

"For instance:—cut a sapling, say five or six inches in diameter, for a lever, in the month of August, and another of similar quality and size in winter or spring. I *know*, if the first is stripped of its bark (which at that time runs well), it will raise as a lever *twice* the weight that can be raised by the latter.

"Another great advantage to be derived from felling timber in the last running of the sap (the time above specified), is, that it is neither subject to dry rot nor injury by worms; white oak, cut at this season, if kept off the ground, will season through two feet in diameter, and remain perfectly sound many years; whereas, if cut in winter or spring, it will be perfectly sap rotten in less than two years.

"For ship building and other purposes, where great expense is incurred in construction, the immense advantage of preparing timber at the proper season must be evident to all.

"I have no koubt, a ship built of timber cut between the middle of July and the last of August, would last nearly twice as long as one built of timber cut at the usual time, and would bare infinitely more hard usage, as the timber seasons more perfectly, and is far harder.

"A few years since, one of the large government ships, built in Philadelphia, of the very best materials, but several years in construction, when ordered to be finished and launched, was found upon inspection to be entirely worthless in many of her timbers (though kept under cover) of dry-rot.

"In all my building for many years past, with large timbers of white and other oak, this has never occurred, nor are they subject to be worm eaten.

"Even fire wood cut at the proper season, is worth from 30 to 50 per cent. more than when cut in the spring or winter.

"If the above facts are considered of any value, please make use of them, and if those learned in such matters can assign any plausible reason for them, the theory may be of value to others as well as thy friend.—*Union Artist.*

Washing Compound.—The receipe for making this compound is often sold for considerable sums of money. Dissolve twenty pounds of hard soap in one gallon of ley, over a slow fire, and let it boil, stirring it frequently. Now set aside to cool, then add one quart of spirits of turpentine, and a pint of strong spirits of ammonia. When cold, cut it into bars, and wrap closely in paper and put away for use. It is far superior to common bar soap, and will save nearly one half the labor of Washing.

More Smiling.—It is noticeable that our agricultural papers, especially the later ones, are discarding the over did gravity and dulness of old, thought necessary, and mange to say a cheerful word now and then, or to throw in a breath of humor, "or to smile a smile;" as though the double muscles with which people do their laughing were made for something. We never could see why it was necessary that works on agriculture should be made as dull as possible. Why not jump a jump once in a while; why not cachinnate? All that is said will be just as true and the boys and girls will like it a good deal better, and be much more likely to begin to think that farming is not of necessity the stupidest of businesses. This has always been our notion and when a good idea or a little turn of humor came along we did not turn out for it. We are glad to see others coming to like conclusions. Here is the *new* New England Farmer, for instance, which actually perpetrates a joke occasionally—a thing which would have sunk the *old* ones.—We begin to believe the song when it talks about "a good time coming."

[*Prairie Farmer.*

It would seem that our brother of the Prairie Farmer can "perpetrate a joke" and extort a smile, himself, judging from the following:

[Eds. F. & P.

Change of Column.—The agricultural papers are always cutting up some foolish tantrum or other. Our clever friend, the Genesee Farmer has just widened out its column to cover the whole page, so that a man in reading is obliged to twist his neck from one side to the other, like a spinster reading her first letter. It reminds us of the boy's piece of pumpkin pie which was all wide and no long; and in trying to stretch his mouth so as to get in the wide end of it, he broke it in two and lost the greater part. The Genesee Farmer *is* a first rate paper, nevertheless.

Tempering, Hardening and Softening Metals.

USED IN THE MECHANICAL ARTS.

The following article is from Appletons Dictionary of Mechanics, one of the greatest works of the age, and one that should find a place in every public and private library of the Union. It is published in two large volumes, and can be procured for $12, from most of the booksellers in this city.—*Union Artist*

When the malleable metals are hammered or rolled, they generally increase in hardness, in elasticity, and in density or specific gravity, which effects are produced simply from the closer approximation of their particles; and in this respect steel may be perhaps considered to excel, as the process called hammer-hardening, which simply means hammering without heat, is frequently employed as the sole means of hardening some kinds of steel-springs, and for which it answers remarkably well

After a certain degree of compression, the malleable metals assume their closest and most condensed states, and it becomes necessary to discontinue the compression or elongation, as it would cause the disunion or cracking of the sheet or wire, or else the metal must be softened by the process of annealing.

The metals, lead, tin and zinc, are by some considered to be perceptibly softened by immersion in boiling water; but such of the metals as will bear it, are generally heated to redness; the cohesion of the mass is for the time reduced, and the metal becomes as soft as at first, and the working and annealing may be thus pursued until the sheet metal or the wire reaches its limit of tenacity.

The generality of the metals and alloys suffer no very observable change, whether they are suddenly quenched in hot water from the red-heat or not.—Pure hammered iron, like the rest, appears after annealing, to be equally soft, whether suddenly or slowly cooled.—Some of the impure kinds of malleable iron harden by immersion, but only to

an extent that is rather hurtful than useful, and which may be considered as an accidental quality.

Steel however, receives by sudden cooling that extreme degree of hardness, combined with tenacity, which places it so incalculably beyond every other material for the manufacture of cutting tools—especially as it likewise admits of a regular gradation from extreme hardness to its softest state, when subsequently re-heated or tempered. Steel, therefore, assumes a place in the economy of manufactures unapproachable by any other material. Consequently we may safely say that without it, it would be impossible to produce nearly all our finished works in metal and other hard substances; for although some of the metallic alloys are remarkable for hardness, and were used for various implements of peaceful industry, and also those of war, before the invention of steel, yet in point of absolute and enduring hardness, and equally so in respect to elasticity and tenacity, they fall exceedingly short of hardened steel.

Hammer hardening renders the steel more fibrous and less chrystalline, and reduces it in bulk. On the other hand, fire hardening makes steel more chrystalline and frequently of greater bulk. But the elastic nature of hammer-hardened steel will not take so wide nor so efficient a range as that which is fire-hardened.

If we attempt to seek the remarkable difference between pure iron and steel in their chemical analysis, it appears to result from a minute portion of carbon. And east iron, which possesses a much larger share, presents, as we should expect, somewhat singular phenomena.

Iron semi-steelified..	contains one 150th of carb.	
Soft cast-steel capable of welding	contains one 120th	"
Cast-steel for common purposes,	100th	"
Cast-steel requiring more hardness	90th	"
Steel capable of standing a few blows, but quite unfit for drawing	50th	"
First approach to a steely granulated fracture,	30th to 40th	"
White cast-iron,	25th	"
Mottled cast-iron,	15th	"
Super-carbonated crude iron	12th	"

Moreover, as the hard and soft conditions of steel may be reversed backwards and forwards without any rapid chemical change in its substance, it has been pronounced to result from internal arrangement or crystallization, which may be in a degree illustrated and explained by similar changes observed in glass.

A wine glass, or other object recently blown, and plunged whilst red-hot into cold water, cracks in a thousand places, and even when cooled in warm air it is very brittle, and will scarcely endure the slightest violence or sudden change of temperature; and visitors to the glass-house are often shown that a wine glass or other article of irregular form, breaks in cooling in the open air, from its unequal construction at different parts. But the objects would have become useful, and less disposed to fracture, if they had been allowed to arrange their particles gradually during their very slow passage through the long annealing oven or *leer* of the glass-house, the end at which they enter being at the red-heat, and the opposite extremity almost cold.

To perfect the annealing, it is not unusual with lamp-glasses, tubes for steam-guages, and similar pieces exposed to sudden transitions of heat and cold, to place them in a vessel of cold water, which is slowly raised to the boiling temperature, kept for some hours at that heat, and then allowed to cool very slowly. The effect thus produced is far from chimerical. For such pieces of flint-glass intended for cutting, as are found to be insufficiently annealed, the boiling is sometimes preferred to a second passage through the leer. Lamp-glasses are also much *less* exposed to fracture, when they have been once used, as the heat, if not too suddenly applied or checked, completes the annealing.

Steel in like manner, when suddenly cooled, is disposed to crack in pieces, which is a constant source of anxiety.—The danger increases with the thickness in the same way with glass, and more especially when the works are unequally thick and thin.

Another ground of analogy between glass and steel, appears to exist in the unannealed glass used for exhibiting the phenomena formerly called double refraction, but now polarization, of light, an effect distinctly traced to its peculiar crystalline structure.

In glass it is supposed to arise from the cooling of the external crust more rapidly than the internal mass. The outer crust is therefore in a state of tension or restraint, from an attempt to squeeze the inner mass into a smaller space than it seems to require; and from the hasty arrangement of the unannealed glass, the natural positions of its crystals are in a measure disturbed or dislocated.

It has been shown experimentally, that a re-arrangement of the particles of glass occurs in the process of annealing, as of two pieces of the same tube each 40 inches long, the one sent through the leer contracted one-sixteenth of an inch more than the other, which was cooled as usual in the open air. Tubes for philosophical purposes are not annealed, as their inner surfaces are apt to become soiled with the sulphur of the fuel.—They are in consequence very brittle and liable to accident.

In the philosophical toy, the Prince Rupert's drop, this disruption is curiously evident to the sight, as the inner substance is cracked and divided into a multitude of detached parts, held together by the smooth external coat. The unannealed glass, when cautiously heated and slowly cooled, ceases to present the polarizing effect and the steel similarly treated ceases to be hard; and may we not therefore indulge in the speculation, that in both cases a peculiar crystalline structure is consequent upon the unannealed or hardened state?

In the process of hardening steel, water is by no means essential, as the sole object is to extract its heat rapidly; and the following are examples, commencing with the condition of extreme hardness, and ending with the reverse condition.

A thin heated blade placed between the cold hammer and anvil, or other good conductors of heat, becomes perfectly hard. Thicker pieces of steel, cooled by exposure to the air upon the anvil, become rather hard, but readily admit of being filed. They become softer when placed on the cold cinders, or other bad conductors of heat; still more soft when placed in hot cinders, or within the fire itself, and cooled by their gradual extinction. When the steel is incased in close boxes, with charcoal powder, and it is raised to a red-heat and allowed to cool in the fire or furnace, it assumes its softest state, unless, lastly, we proceed to its partial decomposition. This is done by inclosing the steel with iron turnings or filings, the scales from the smith's anvil, lime, or other matters that will abstract the carbon from its surface. By this mode, it is superficially decarbonized, or reduced to the condition of pure soft iron, in the manner practised by Mr. Jacob Perkins, in his most effective combination of processes employed for producing, in unlimited numbers, absolutely identical impres-

sions of bank notes and checks, for the prevention of forgery.

A nearly similar variety of conditions might be referred to, as existing in cast-iron in its ordinary state, governed by magnitude, quality, and management of the castings, independently of which, by one particular method, some east-iron may be rendered externally as hard as the hardest steel. Such are called *chilled iron-castings;* and as the opposite extreme, by a method of annealing combined with partial decomposition, *malleable iron-castings* may be obtained, so that cast-iron nails may be clenched.

Again the purest iron, and most varieties of cast-iron, may, by another proceeding, be superficially converted into steel, and then hardened, the operation being appropriately named *case-hardening.*

It may perhaps be truly said, that upon no one subject connected with mechanical art, does there exist such a contrariety of opinion, not unmixed with prejudice, as that of hardening and tempering steel, which makes it often difficult to reconcile the practices followed by different individuals, in order to arrive at exactly similar ends. The real difficulty of the subject occurs in part from the mysteriousness of the change, and from the absence of defined measures, by which either the steps of the process itself, or the value of the results when obtained, may be satisfactorily measured, as each is determined almost alone by the unassisted senses of sight and touch, instead of by those physical means by which numerous other matters may be strictly tested and measured, nearly without reference to the judgment of the individual, which in its very nature is less to be relied upon.

The excellence of cutting tools, for instance, is pronounced upon their relative degrees of endurance; but many accidental circumstances here interfere to vitiate the strict comparison. And in respect to the measure of simple hardness, nearly the only test is the resistance the objects offer to the file, a mode in two ways defective, as the files differ among themselves in hardness; and they only serve to indicate in an imperfect manner, to the touch of the individual, a general notion without any distinct measure, so that when the opinion of half a dozen persons may be taken upon as many pieces of steel, differing but slightly in hardness, the want of uniformity in their decisions will show the vague nature of the proof. Under these circumstances, instead of recommending any particular methods, we have determined to advance a variety of practical examples, derived from various sources, which will serve in most cases to confirm, but in some, to confute one another, leaving to every individual to follow those examples which may be the most nearly parallel with his own wants. There are, however, some few points upon which it may be said that all are agreed, namely—

The temperature suitable to forging and hardening steel, differs in some degree with its quality and its mode of manufacture. The heat that is required diminishes with the increase of carbon.

In every case *the lowest available temperature* should be employed in each process. The hammering should be applied in *the most equal manner throughout;* and for cutting tools it should be continued until they are nearly cold.

Coke or charcoal is much better for fuel than fresh coal, the sulphur of which is highly injurious.

The scale should be removed from the face of the work, to expose it more uniformly to the effect of the cooling medium.

Hardening a second time, without the intervention of hammering, is attended with increased risk; and the less frequently steel passes through the fire, the better.

(*To be Continued.*)

Age of Brooding Mares.—The question was asked in the February number of the *Prairie Farmer*, when is the best time for mares to produce their first foal—whether at three, four, or five years old? Mr. Pierce, a correspondent of that paper, says: "From a practical experience of thirty years, I would say three years old. It adds to the growth of the dam; and, furthermore, I believe that the older a mare gets the firmer and more solid she gets, and more liable to accidents that so often occur in foaling. I believe also that it adds to the value of such as are intended for brood mares."

The Sycamore.—Mr. Lucius Cook recommends the sycamore tree for cultivation. He says many other trees will do, but the sycamore will live long, grow thick, grow on dry ground or on wet, and if it stands a long time in water, it does not kill it, nor does the sun, after the water leaves it.

We often mistake our friends for foes.

Rose Insects.—If our lady readers are desirous of keeping their rose bushes free from the small green vermin that so frequently infest them, the following remedy will be found a most effectual one:—To three gallons of water, add one peck of soot and one quart of unslaked lime. Stir it well—let it stand for twenty-four hours, and when the soot rises to the surface, skim it off. Use a syringe for applying it.

Chickens—Cure the Pip.—Undoubtedly about these days, some of your fowls will have this common complaint. Cure it. How? Simply by mixing a tablespoonful of sulphur with about three pounds of meal, for a feed every other day, perhaps for a fortnight. Be very careful not to let any of that substance get mixed with your disposition, or it may give you a worse complaint than the one you are curing. Too much sulphur in that sweet compound composing female hearts, is apt to make them a little fiery. It will cure the pip though. So it will kidney worms in pigs.—*Ex.*

Antidote for Poison.—Mustard is one of the best, and always the most convenient article to be used when poison has been taken into the stomach. Mix a large teaspoonful of it in powder in a tumbler of warm water, and swallow it at once. If it does not act immediately as an emetic, take another. As soon as the vomiting is over, swallow a tablespoonful of sweet oil, and you are cured without a stomach pump or a doctor's bill.—*Ib.*

Clean Your Cellars.—Now is the time to do it. You cannot have good milk and butter in a dirty cellar. Clean out all decaying vegetables and rotten wood, and use the whitewash freely, and you will have good air and a good place for dairy purposes.

Cure for Chapped Hands.—Most of our juveniles, during the winter season, are troubled with chapped hands. For the benefit of the mothers, who are obliged to listen to their endless complaints, we publish the following recipe for "chapped hands:"

Take three drachms of gum camphor, three drachms of white beeswax, three do. spermaceti, and two ounces olive oil—put them together in a cup upon the stove, where they will melt slowly and form a white ointment in a few minutes. Anoint the hands before going to bed, and put on a pair of gloves. A day or two will suffice to cure them.

Abstract from a Meteorological Journal

We give below an abstract of a Meteorological journal for the year 1851, kept in St. John's Berkley Parish, S. C., for the Black Oak Agricultural Society, by H. W. RAVENELL. Secretary.

MONTHS.	Therm. Exposed Max.	Therm. Exposed Min.	Thermometer protected Max.	Thermometer protected Min.	Thermometer protected Range	Thermometer protected Mean	Barometer. Max.	Barometer. Min.	Barometer. Range	Prevailing Winds.	Rain in inches.	Days of rain	Days without Rain.
January,	89	41	69	23	48	48.71	29.96	29.04	.92	SW	3.37	7	24
February,	97	10	80	24	56	56.82	30.90	29.20	.80	SW	1.69	5	23
March,	104	20	80	31	49	58.00	29.75	29.12	.62	SW.NW	1.47	5	26
April,	106	36	79	44	35	61.78	29 70	29.00	.70	sw.swnw	3.12	5	15
May,	117	37	89	49	40	67.44	29.67	29.11	.56	NE.SW	1.10	3	28
June	113	52	93	59	34	76.25	29.67	29 30	.37	SW.NE	6.71	11	19
July,	120	63	93	67	26	79 91	29.56	29.26	.30	S.E	7.43	16	15
August	119	61	89	65	24	79.15	29.58	29.00	.58	S.E	7.04	18	18
September,	117	43	88	46	42	71.71	29.68	29.15	.53	NW.SE	1.51	3	27
October,	106	31	83	36	47	63.95	29 60	29.00	.60	W	1.58	2	29
November	101	21	77	29	48	53.40	29.72	29.06	.66	NE	5.76	6	24
December.	98	01	70	26	51	41.16	29.89	29.11	.78	NW	1.81	4	27

Recapitulation for the preceding six Years.

		1846	1847	1848	1849	1850	1851	Mean.
Max. of Temp.	Therm Exp'ed	....	....	....	....	....	120°	
Min. " "	Therm Exp'ed	....	....	....	....	....	10°	
Annual Range,	Therm Exp'ed	....	....	....	....	....	110°	
Max. of Temp.	Thermometer Protected	90°	89°	92°	91°	91°	93°	91°00
Min. " "	Thermometer Protected	....	15°	24°	17°	24°	19°	19°80
Annual Range.	Thermometer Protected	....	74°	68°	74°	67°	56°	67.80
Mean Win Tem	Thermometer Protected	....	491.3	55.13	49.87	53.80	50.89	51.83
" Sum. "	Thermometer Protected	77.30	722.5	76.86	77.10	78.58	78.43	76.75
" Annual "	Thermometer Protected	....	610.6	64.86	63.94	64.99	63.63	64.29
Range of Barometer,		.. 1.13	1.01	0.94	1.02	0.98	0.92	1.00
Amount rain in inches		.. 45.83	35.55	29.28	39.29	39.29	42.57	36.24
Prev. winds in winter		NW.SW	NW	SW.NW	SW.NW	SW.NW	SW.NW	NW.SW
" " " summer		SW	SW SE	SW	SW	SW	SE.NE	SW
No. of days of Rain,		....	190	92	86	81	80	106
" " " without "		....	175	273	289	284	285	258

The Central Agricultural Society

To the Cotton Planters' Convention of Ala.

We have recently received from some friend the Georgia Telegraph, extra, containing the address of the Central Agricultural Society, to the Cotton Planters' Convention of Alabama, which we take pleasure in laying before our readers, believing as we do that the object of the Committee is worthy of every cotton planter's consideration. If suitable and cheap machinery can be produced, which we doubt not, if sufficient inducements are offered, it will undoubtedly be to the interest of the planter to raise *less* of the raw material, and manufacture it into yarns with his own force, before selling to those who relize more profit in its manufacture than he does from its production. The lessening of the annual production by setting apart an efficient force to convert the raw material into yarns, &c., would not prove the least important result to the planter. It would operate in some degree to prevent over production and consequently to enhance the price of both the raw and manufactured material. Be this as it may, however, we are fully persuaded in our own minds that a planter can realize more from the same force, by converting the raw material into yarn before disposing of it, than otherwise. And would it not be better for our country at large, if the smaller class of planters, who are not able to buy machinery, were to pay toll to our own manufacturers for spinning, as they even now do for ginning their cotton before disposing of it? Even this course, if generally persued by all who are not able or might not be disposed to purchase machinery, would in some degree lessen the production; as a larger number of producers would find employment in our home manufactories, which would increase in proportion to the work to be done.

It appears from the Montgomery Journal that the Planters' Convention does not re-assemble at that place this spring, as the resolution to that effect did not pass at the Macon Convention.—The Convention will probably convene in the fall:

The Executive Committee of the southern Agricultural Society respectfully submits to the consideration of the Cotton Planter's Convention, about to assemble in Montgomery, Alabama, the question of offering a sufficient inducement to mechanical skill to supply a simple and effective machine to gin, card and spin, on plantation, from five to ten pounds of cotton per hour, so as to provide every planter who may desire it, the means of converting on his own premises, into yarn or twist, every pound of cotton which he shall produce. The elements of such a machine already exist, and all that is needed for its production is the inducement which a liberal premium would supply.

In the progress of society the objects of pursuit becomes multiplied. The deficiencies of yesterday are supplied by the ingenuity of to day. Every new combination, in supplying existing demands, creates new wants, an invention in fulfilling one want creates another. This is the progress of society—fertile in experiments and rich in results.

The introduction of the culture of cotton in Georgia, as an export—for it had been grown in several of the Southern Colonies for domestic use—supplied the saw-gin, the invention of Nathan Lyons, to whose mind the circular saw on a wooden cylinder, was suggested on seeing Whitney's gin—wire teeth in circles around the wood cylinder—in operation in Savannah. For a time, cotton was prepared by toll-gins for market—one or more in a county; next, the more enterprising planter would have his own gin, and cleaning perhaps the cotton of one or two of his neighbors as well as his own. Now the cotton planter considers a gin a necessary element of his business, and the cotton press has become almost as indispensable a necessity.

Is this to be the limit (the *ultima thule*) in the progress of the cotton planter?—Shall he remain content with what has been achieved? And multiplying his cotton bags, and consequently reducing their value, increase the profits of the spinners of his staple in the ratio of the reduction of his own? His cotton has stimulated all the improvements in machinery which have rendered it so important an element of commerce and civilization. And this has been the work of but little more than half a century.—May he not participate in all the benefits, whose foundations rest on his labors?—Why shall he incur so much of the toils and partake so scantily of the advantages incident to his staple in its vast ramifications through society?

In a brief period in the lapse of time the annual production of cotton in the United States, has risen from a few thousand to near three million of bags, and in proportion to that increase has become the dependence of the great manufacturer, England, upon our slave-labor for her supply of cotton—a dependence almost involving her political, if not her social

condition. Strenuous efforts have been made, and are not yet abandoned, to relieve herself from a dependence as mortifying to her self-love, as dangerous to her future prosperity and independence. But Great Britain is not alone. The cotton spinners everywhere, out of the slave-holding states, profess to be grieved that they are dependent upon slave-labor for their cotton, and it would seem, as Manchester and Lowell are the loudest complainants, that the amount of grief felt at using our cotton is about in proportion to that of their profits—so that we may estimate, with some approach to accuracy, the amount of income derivable, in a manufacturing district, from the use of our staple, by the energy of its denunciations of slavery.—"*Sed hœret in latere lethalis orundo.*" The love of mammon is not extinct, and our slavery carries a silent consolation, if not reconcilement to Pharisaical Philanthropy.

If our soil and climate do not, our slave-labor certainly does, place us beyond the reach of rivalry in the growth of cotton. When free labor is engaged in the production of any commodity, the amount of labor directed to it is directed to the production of cotton, and will be so applied, almost independently of the price of the article. Certainly, so long as cotton pays anything beyond the cost of production, preparation for and transportation to market, and by cost of production is here meant the actual outlay for the time, exclusive of the money value of the laborers and land. The soil and labor being property, the price of the product (cotton) regulates their value and does not, to any perceptible extent, affect the amount of labor engaged in its growth; and, hence, the capacity of the slave-holding states to derive from the European market the cotton of any other country, the product of free labor.—The character of our labor constitutes alike our strength and our weakness—our strength to maintain possession of the cotton market—our weakness to resist combinations against us, whom all the world denounce and cherish. Whilst our slave-labor secures a market for our great staple, there is a great, perhaps a growing, insecurity to remunerating prices to that labor. Whilst high prices will not increase our production of cotton much beyond the natural increase of our slave population, they stimulate production abroad, where another kind of labor is employed in its culture. And whilst low prices exercise but little influence in lessening our production, they are potent in reducing the production of cotton by free labor. The future condition of the cotton planter, under these circumstances, then, must mainly depend upon his own energies and his own resources. What these energies and resources are, the history of the past speaks in distinct and emphatic language.—However much we are habitually calumniated abroad, and whilst these calumnies have given a sombre hue to the lights through which many of us at home look upon the future of our condition, it is certainly true that the slave holding states will not compare discreditably with other states, under like circumstances, in any age or quarter of the world. The states north of us are estimated and judged of by the commerce and thrift of their cities and the number and noise of their factories, without reference to the small per cent. of their whole population, living and laboring in them. We are an agricultuarl people—our wealth, our population, our pursuits, our intelligence and our refinement are of the country and in the country. It may safely be affirmed, that the society annually present at the prominent watering places, south of Mason and Dixon's line, need not shun comparison with any other, elsewhere, for decorum, propriety, intelligence and good taste.—That society is essentially southern and agricultural, and represents a much larger one, at home, which is stationary.

Our adversaries herd in the public marts; they fill up the high-ways; they combine; they control public opinion; they command the Press and exercise, not always, a just and wholesome influence over the opinion of the factors who sell our crops. They estimate our productions and, too often, regulate the prices upon data made for the occasion.—We do not, perhaps we cannot, combine. We do not dispatch couriers through every district to learn and report the amount of the incomming crop. We cannot raise money upon our produce, although it passes immediately into the hands of the merchant or speculator, he can raise upon it the price he has paid for it. If we endeavor to investigate the prospects of future prices, we can grasp only the information which the speculator and the manufacturer have prepared for their own purposes, and we sell our crops with the haste of an auctioneer getting off a cargo of West India fruit on a frosty day. If there be not, within the power of the cotton planters, the means of protection against all the disadvantages to which their position subjects them, they may yet do much to increase the returns on their invested capital, and exercise a salutary influence upon prices—to some extent enhancing them, and to a greater extent divesting them of their fluctuations, which, taken in all its bearings, is perhaps the greatest evil to which cotton planters are subjected.

Great Britain habitually imports about one-sixth more raw cotton than the manufactures, and, according to Baines, in his history of cotton manufacture, makes a profit of ten per cent. upon the exportation of a portion of that excess to Havre. And she converts into yarn and exports about one-fifth more of the amount of her imports of raw cotton. This is not the place to enquire into the means by which she is enabled to monopolize so large an amount of our raw staple, and to engross so large a profit by a mere transfer of what she cannot use at home, across the channel. It is more germain to the purpose of this paper to inquire if the cotton planters of the United States may not, themselves, spin and export part of all of that excess of yarn, which Great Britain spins but does not make into cloth? The more direct and practical proposition is, may not the cotton planters look forward to the time when the exportation of raw cotton will be as rare as the exportation of seed cotton was thirty or forty years ago? There are not as great difficulties now to the spinning and exportation of yarns as existed some sixty years ago to the ginning and exportation of clean cotton. Then the cotton gin was in the hands of the patentees, who endeavored to make a "great East India concern of it" by establishing ginneries at numerous points in the cotton region, and coercing the planters to sell their cotton in the seed, by refusing to sell rights to the gin. That scheme of monopoly, amounting almost to fraud, was defeated by the ingenuity of Nathan Lyons, who, as already stated, invented the saw gin. Now, all the elements for ginning, carding and spinning exist in machinery of almost perfect construction, and its adaptation to the planter's wants is alone necessary to enable him to spin his own crop at his own homestead.—The spinning of cotton—as was one time the ginning of it—is a distinct pursnit, employing a distinct capital and creating a distinct and antagonizing interest

to that of the planter. The same energy that enabled him to unite the ginning out of his crop with the production of it, will now unite, in his own hands, the production, ginning, carding and spinning. And he will find that he will add proportionally more to the profits of his investment by carding and spinning than he has by ginning his crop, for the women and children may be readily taught to spin, in winter, what they have aided in cultivating and gathering. But a few years ago, it was a matter of doubt, in the minds of many earnest friends of slave-labor, whether that labor could be successfully applied to what is called operative service—that is, to attendance on machinery engaged in manufacturing cotton and wool. But more recent experience in Georgia, as well as elsewhere, has fully proved that negroes make very good operatives. And they are now successfully employed in many factories, and nowhere, it is believed, has there been a failure in the application of slave-labor to factory purposes. Many planters have felt the importance of reducing the production of cotton as the best, if not only, means of enhancing the price. The chief difficulty has been to supply to the planter a remuneration equivalent to the loss supposed to be sustained by a reduction in the amount of his crop. To card and spin the cotton at home will much more than give that remuneration, should the reduction of production amount to twenty or thirty per cent. upon his ordinary crop. The reduction in the crop would not be a necessary incident, though a probable one, on its conversion into yarn at the homestead, because it is confidently believed that the planter would be prompted by a clear conviction that he would find the greatest profit in growing no more cotton than he could convert into yarn by his own force; unless, indeed, he should call to his aid a portion of the white, rural population, abounding in all the southern states, whose condition and comforts would be improved by becoming operatives in factories. These are, however, but little more than matters of detail, which every planter will readily decide for himself.

The purpose of this paper being to suggest, for consideration, the incorporation, into the plantation system, of an important economical element, eminently calculated to sustain that system, as is humbly believed, and impart new life to it, there is scarce occasion to present a systemytic course of argument to the intelligence which is respectfully addressed.

In conclusion, it may be remarked, that whenever cotton planters shall have added to the growth of their staple, machinery to gin, card and spin it for exportation, they will as certainly be enabled to undersell distant manufacturers of yarns as they have undersold the producers of cotton by free labor, and they will be in a position to dispose of their yarns at prices which will supply an active demand, with adequate remuneration for all the cotton which they can produce.

On motion of Dr. Daniel, of Savannah—

"The fluctuations in the price of cotton have long been felt as a very serious evil to all the great interests of the country, and plans have been suggested to supply more steadfast prices, to an extent strongly indicative of the prevalence of this conviction. As a measure calculated in its tendencies to exercise some influence in correcting these fluctuations, the Executive Committee of the "Southern Central Agricultural Society" recommend to the Convention of Cotton Planters to assemble in Montgomery, Alabama, in May next, to offer a premium sufficient to stimulate the mechanical skill of the world to supply a *simple* and *effective* machine, calculated to spin into any of the numbers in ordinary use of yarn about ten pounds of cotton per hour, which cotton planters may introduce upon their plantations, to spin into yarn, during the winter, the cotton grown the preceeding season." WM. TERREL,

Chm'n Ex. Com. S. C. A. S.

J. V. JONES, *Sec. S. C. A. S.*

Bermuda Grass.

Passing the house of a friend, not long since, we observed his hogs were in better order than those of most of our neighbors at this time of unprecedented scarcity of grain. On enquiring into the cause, he informed us that he had given them but very little corn—that he had a Bermuda grass patch which he occasionally plowed up, and on the roots of which his hogs kept in the order we saw them.

Would it not be well for each farmer to have a field, according to the size of this stock, set in this (by many condemned and much abused) excellent grass, and kept apart from his cultivated fields proposely for his hogs in the winter, and for other stock in the summer? We have seen enough written on the subject, to know that many will be horrified at the very suggestion of introducing it on to any part of a farm. But we can assure such, that a very narrow strip of wood-land, and even some such fence-rows as are not by any means unusual to be seen in this country, will effectually stop its creeping progress. Keep a border of woods, or such a fence-row around it, and be careful to clean your plow well before leaving the field, and we will obligate to exterminate all that leaps its circumscribed bounds. It matures no seed, hence it cannot be scattered in the excrements of cattle, as is not unfrequently the case with other grasses.

If our farmers and planters intended raising their own hogs and other stock, as every one should do even if he produces less cotton, instead of buying from Tennessee and Kentucky, at the most extravigant prices when we are least able to pay them, it is high time we were turning our attention to some auxiliary to the corn crop. The pea, sweet potato, and turnip—the clover, and grasses, should each one occupy its place on the farm. Of the pea we can raise with our corn a great abundance, yearly, to fatten our pork in the fall. And if we plant the black or tory varieties, to carry our stock hogs pretty well through the winter. Some are opposed to giving stock hogs peas—believing they will cause the hogs to die the next summer. We believe it is rather from poverty than the effects of peas that they die. Fatten a hog on corn in the fall or winter, and allow him to become poor in the summer, and he is more apt to die than one that has been kept lean all the time. But if we fear the effects of the pea, we might successfully cultivate the sweet potato, which is believed by many to afford more food on the same space of land, than can be made in any other crop. We know from experience, that with a small addition of corn, hogs fatten kindly on them, and that the meat is sweeter and more more juicy than when fed on corn alone.

Rye, barley, clover, and grass lots for winter and spring grazing, and early cutting, in case a great scarcity of grain and fodder, every one may have with the least care and attention, that can afford to come out of the cotton field to prepare for them. Horses and cattle cannot *live* on cotton stalks, nor can negroes on the seed.

Small Grain for Seed—Wheat, Rye, Oats and Barley, intended for seeding, should be got out with the *flail*, and winnowed in a good north-west wind; subjecting either to the cleansing process of machinery, it is said, will destroy the vegetative power of fully one-fourth of either—and we believe it.—*Am. Farmer.*

We don't.—EDS. F. & P.

ECONOMY OF FOOD.—The unprecedented scarcity of provisions, for man and beast, throughout our section of country, renders every economical suggestion useful, even tho' it eminate from one of limited experienc. With this inducement, I offer a few thonghts for tillers of the soil.

For many years I have pursued the habit of soaking corn 24 to 48 hours in water, a little salt, thrown in, twice a week; the casks used, to be refilled with

water as fast as absorbed. *Working* horses will consume the cob entirely, with as much benefit as an equal weight of fodder, which of course may be fed more sparingly. Another consideration important to those located near to whiskey dealers: the corn is unmerchantable, consequently your servants are less tempted to become thieves and drunkards.

Wheat "in the milk," (when scarcity demands it,) may be cut and cured like hay, with advantage; should be sprinkled with dry salt (a peck to the ton), when housed. Thus managed, *in an emergency*, is a tolerable substitute for corn and fodder. Wheat, when stricken with rust, should be thus treated, with the *least possible* delay, and is in no way inferior, as food, to oats in the sheaf.

Corn from abroad should be purchased only after careful examination—it is liable to damage from wet, in transportation, especially on ship-board. *Verry serious losses*, not unfrequently ensue, from inattention to the soundness of food—sometimes in the purchase of bacon "*good enough for negroes.*" A sound article, I need not add, is always and every where the true ECONOMY.

Southern Cultivator.]

Prospects of Crops, Fruits, &c.

Our prospects for wheat crops are, we think, rather gloomy than otherwise. We have heard of but few good fields, and seen none that will come up to an average crop—even if what is standing should arrive at full maturity, and of this we have our doubts, as thin grain is more subject to rust than such as stands sufficiently thick on the land. The intense cold of the past winter, has left scarcely half a stand on most fields, and not a full one on any.

Oats look well, especially such as were sown early; and promise, with suitable seasons, a fair crop—which will be greatly needed before they come in.

Corn, which every thing, from the crow down to the cut and wire worm, seems to have entered into a resolution to destroy, is rather backward and pale for the season. Should we fail in another crop of corn, Lord help the people, for there is not a man in our country having the least particle of the milk of human kindness in his composition—or possessing even the charity of a hog, that will have a bushel left in his crib at the usual time of gathering the crop.

Apples and Peaches—of these and other fruits, except the fig, we have a prospect of a medium crop. Our unprotected fig trees, so far as we know, are all killed down to the ground. Our friend Col. H. of Charleston, will recollect the fine trees that stood in the garden of the venerable F. K. H., in the vicinity of Pendleton. They are all destroyed, and we have had them cut down. But "there is hope of a tree that if it be cut down that it will sprout again, and the tender branches thereof will not cease." So it is with our figs—the tender branches are again shooting up in beautiful luxuriance.

Our gardens look well. Of green peas we have had an abundance since the 25th of April. How can a man live and raise a family without knowing the luxury of a good garden? Yet, how many are there that do so? Such we pity—but their families more than they; for any man may have a garden that is not too lazy, or too fearful of loosing a cotton bale, in cultivating one.

Pruning Evergreens and other Trees.—Mr. Downing says: "The best time to prune evergreens is midsummer, but small limbs may now be taken off." He also states that trees may be pruned at any time, by using gum shellac dissolved in alcohol. Make it the consistence of paint and apply it to the wounds left by the saw and knife, with a common paint brush. It excludes the air and water, and is not affected by change of weather. For large limbs of old trees, John J. Thomas recommends a coating of tar and brickdust; and others advise the use of a composition of equal parts of clay and cow manure. The shellac solution, however, we consider the most effectual, and by far the neatest for ordinary purposes.—*So. Cultivator.*

Why and Because?

The why is often asked—the because rarely sought after. And this is particularly the case in the Southern States.—Why is it that the value of the annual importation of the Basket Willow into the United States amounts to near five millions of dollars, and that as large as this may seem it does not satisfy the demand? Is it because willows cannot be grown in the United States, or because it would be unprofitable to cultivate a tree that would yield 150 dollars per acre annually? Why is it that the willow merchants of New York can afford to import from France and Germany near five millions of dollars, at the rate of $100 to $130 per ton? Is it because it gives employment to thousands of poor people to work this little willow limb into fanciful baskets, toys, &c.?

Why is it that the basket makers of New York can afford to pay $150 per ton for the raw material? Is it because the annual value of baskets or willow manufactures imported to the Southern States amounts to something like two millions of dollars? Throughout the entire South the willow grows luxuriantly. Every variety can be propagated with little or no trouble. But it is unnecessary to run after foreign varieties. Our native willows which grow upon the banks of every little branch and swamp in the country, with a little skill and taste can be wrought into beautiful basket at little or no expense.

Every body who has been about Glenn's Spring, during the summer, has doubtless been gratified by the exhibition of skill and taste evinced by the basket makers of that neighborhood. Their manufacture was begun there by women, too—poor women on their own hook—who thought that finding the wool and knitting stockings at 25 cents a pair, was rather a poor business.

We would like for some friend who is good at vulgar fractions, to cypher out for us what a poor woman gets for her labor in South Carolina. Poor Tom Hood's song of the shirt, is applicable in more places than one. The misfortune is, it is too easy to live here—any body can get along somehow or somehowelse—as they say in scrouge-about. There are one hundred and thirty-six thousand, eight hundered and fifty white females in South Carolina. Suppose thirty-six thousand of that number, are required to work for their living. Their labor as now expended is a dead letter—it adds nothing to the productive wealth of the country. Suppose the thirty-six thousand should each turn out at odd hours, annually, what a Glenn Spring woman can easily do in a month, $10—here is the round sum of three hundred and sixty thousand dollars added to the productive wealth of the country. The beauty of it is, too, it comes from a class which seemed heretofore only "fruges consumere nate" in our policy. There is no humbug about this matter. Willow baskets can be made by any body who has sense enough to get out of the rain, at little or no cost, and out of the common swamp willow which grows every where. There is no doubt about the demand being greater than all the operative force that can be mustered into service in S. Carolina, can supply for years to come. And there is no sense in the labor of thirty thousand women being locked up in unproductive copperas homespun and yarn stockings, when the same labor applied to basket making, would make something out of nothing, add wealth to the country, diffuse comforts among a class now sadly in want of them, enlarge our independence and add to our character as a people. BROOMSEDGE.

Big Branch, May, 1852.

Black Oak Agricultural Society.

"Editors Farmer and Planter:—

Dear Sirs—At a late meeting of the Black Oak Agricultural Society, the following resolution was passed:

"That the thanks of this Society be presented to the Editors of the Farmer and Planter, for the copy of their paper sent to us the last year—and that the Secretary be requested to subscribe for twelve copies of the same for the present year."

In accordance with this resolution, I enclose $10, and request that you will send the numbers to "The Black Oak Agricultural Society" Black Oak, S. C.

Very respectfully,

H. W. Ravenel, Sec'ry."

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Many thanks are due to the noble souls composing the Black Oak Society. It would be well, not only for ourselves, but for the agricultural interests of the State. if every Society in it would resolve at once on following the patriotic and praiseworthy example set by the Black Oak Society. We understand it is the intention of the Society to distribute these volumes of the Farmer and Planter as premiums at their next anniversary. This is as it should be, instead of awarding golden meadals and silver cups, altogether—let the smaller premiums be given in volumes of the Agricultural papers of our country. This would encourage a spirit of Agricultural reading, and a disposition to support Agricultural papers. Such disposition, we regret to say, is truly at a low ebb in our State at this time—lower, we believe, than in almost any other State in the Union. But we have no time to attend to these matters—we have "had to take care that our State suffer no detriment"—and we've done it!

Preserving Fruits in their own Juice.—As the season of fruits is now approaching, it may be interesting to our lady readers to be informed of a method by which the most delicate fruits can be preserved so as to retain their flavor for an almost indefinite period. Thirteen bottles of fruits so preserved were exhibited lately at Rochester, N. Y., by W. R. Smith, of Wayne county, viz: five of cherries, two of peaches, one of strawberries, three of different varieties of currants, one of blackberries, and one of plums. They were examined by a committee, and found of fine flavor; and the committee expressed the opinion that the art of preserving fruit in this manner is practicable and valuable, and that the fruit, when carefully put up, can be made to keep as long as may be desirable.

The method of preserving is thus given to the New York State Society by Mr. Smith:—*Southern Cultivator.*

"They are preserved by placing the bottles, filled with the fruit, in cold water, and raising the temperature to the boiling point as quickly as possible; then cork and seal the bottles *immediately.*—Some varieties of fruit will not fill the bottle with their own juice—these must be filled with boiling water and corked as before mentioned, after the surrounding water boils.

The Law of Newspapers.

1. All subscribers who do not give EXPRESS NOTICE to the contrary, are considered as wishing to continue their subscriptions.

2. If subscribers order a discontinuance of their papers, the publishers may continue to send them till all arrearages are paid.

3. If subscribers neglect or refuse taking their papers from the offices to which they are sent, they are held responsible till their bills are settled and their papers ordered to be discontinued.

4. The Courts have decided that refusing to take a newspaper or periodical from the office, or removing and leaving it uncalled for, is *prima facie* evidence of INTENTIONAL FRAUD.

We have displeased some of our former subscribers, who have ordered a discontinuance of their paper after receiving from one to five numbers of the present volume, because, forsooth, we have presented their accounts for arrearages, up to the time of discontinuance. We are consoled, however, in believing no *honest* man will take offence at our course, and as for others we care not.—Eds. F. & P.

From the Wisconsin Farmer.

Important Discovery.

Mr. Editors:—Sir: An incident in chemistry some years since, first suggested to my mind that paints for common use might be greatly improved in durability, and cheapened in cost, and I commenced a series of chemical experiments with a view of accomplishing these ends, which have been prosecuted at various intervals, as my professional labors would allow, up to last March, when I became fully convinced that I should, at no very distant day, succeed in my undertaking.

At that time I turned my attention to agriculture; purchased a large farm, and commenced improving it; and as I expected to have considerable use for paints upon my own premises, I renewed my efforts to perfect my discoveries, and after a labor of nearly 500 experiments, testing my preparations, and subjecting them to sun, rain, heat, alkalies, and every other agent to which paints could reasonably be exposed, I have at last succeeded in producing paints from materials known and common in every community, which are admitted by good judges, to be superior in all the essential qualities which constitute good paints, at least for outside painting, to those now in general use.

My discovery, consists mainly in the use of another fluid (a componnd) as a substitute for *linseed oil*, and other solids as a base, in the place of *white lead*, and substituting cheap, simple varnishes in the place of those expensive ones now in use.

I use, therefore, no linseed oil, none of the common varnishes, and no white lead except in producing a "pure white," and a few of the finer tints closely allied to that color, which constitute but a mere fraction of the paints in general use.

The superiority of these paints are as follows, viz: They adhere better; dry quicker without "dryers;" are less affected by the weather; they dispense almost wholy with the use of white lead, a most deleterious substance to health; are much simpler in preparation and cost much less than those now in use.

All the darker colors, such as the various shades of brown, red, ochre and orange, together with fawn, slate, chocolate, straw color, &c., &c., which are becoming so fashionable for all *outside* painting, can be produced at a cost for *materials*, of about one third the usual expense of common paints; and the brighter colors, as green, blue, red, yellow &c., at an expense of a trifle more than one half the usual expense.

In connection with these paints, I have succeeded in producing two *varnishes*, one, approximating to a light wine color, for varnishing the darker colors, and one, transparent, for lighter colors, both at an expense of not more than one half the price usually demanded for varnishes. Following up my experiments still further, I have produced a wash for rough fences and outhouses, at a mere nominal expense, which can easily be made any color to suit the user; is hard and lasting, and can with difficulty be distinguished from real paint at a distance of a few feet.

These discoveries it is obvious will immensely increase the painting both in town and country, as soon as they become generally known; first because they diminish the cost of materials on an average of at least one-half, and secondly by the information which the discoverer can convey upon a printed fools-cap page, every one who is so disposed, can procure his own materials, and prepare and apply his paints himself, thus saving to himself one half in cost of materials, and all the painter's bill.

These discoveries will prove of especial utility to farmers, most of whom live at a distance from any professional painter, and many of whom are well aware of the importance of protecting their building by paint, and would gladly do it but can ill-afford the usual outlay.—While engaged in the experiments which produced these discoveries, I did not intend to do anything with them beyond my own use, but when my specimens were examined, and the cheapness of the paints known, many of the most intelligent gentlemen in this vicinity pronounced the discovery a highly important one, and in consideration of the labor and expense to which I had been subjected, recommended me to secure to myself whatever advantages might arise from them and accordingly I made application for *Letters Patent*, and now offer the discovery to the public as one which I believe to be practical, useful and available, and a great source of economy, especially to the industrious, and those disposed to do their own work.

I propose to sell individual, town, county, state, village and city rights, and as my desire is

that the discovery should be placed before the public as speedily as possible, I have placed the price at what is deemed very low. It is as follows:

For one person to use upon the premises actually occupied by him, $3. Town, county, state, village, and city rights, $1 per hundred inhabitants, no town, city, or village being estimated at less than 1000 inhabitants.

These will be the prices to those who remit by letter free of charge, and obtain their patents by that means, but those who purchase of agents will be charged about one half higher, owing to expense incurred in travelling. Persons making remittances and applications for patents, will be particular to give their full names, *legibly written*, with their post office, and the town, county and state, of their residence, and those purchasing territory to the amount of $50 or more will have specimens of paints forwarded to them by stage or express at their own expense if they wish it, before remitting the money.

Eidtors of papers generally, who publish this article, or an abstract of it, containing all the important facts, and forward a copy of the print to my address, shall be entitled to a personal right. Very respectfully,

A. H. Platt, M D.
Practictical Agricultor.

P. S.—Post Office; Sheboygan Falls, Sheboygan Co., Wisconsin.

Barley.

We can see from the window of our sanctum two lots, one containing about a half acre and the other near an acre, covered with a most luxurient crop of this valuable grain. It is, perhaps, wrong to tantalize our readers, who have neglected to sow a crop, with any speculations upon the yield of fine lots of barley per acre, upon its nutritive qualities, both in its green state, and after it has fully matured, and lastly upon the quantity of corn it will save its fortunate possessor from buying; we therefore leave the subject to be refleted upon by them at their leisure, and are in hopes they will at least bestow more attention upon this valuable crop than has heretofore been given it. If we diversify our products we will live easier, more economically, and more thriftily. The production of cotton, when we are unable to compete successfully with the cotton growing States, par excellence, has sadly crippled our energies and resources, and if we do not grow wiser, and in a great measure abandon its culture, pecuniary disaster and ruin will be the inevitable consequence.—*Laurensville Herald.*

You can't "tantalize" us, brother "Herald."—We can play to that card, having on hand *four* lots, two of which we have already cut down when in the boot, and expect to cut again just in time to precede the first cutting of three lots of clover. Can you follow suit? We here take occasion to make our acknowledgments to our friend and correspondent, W. D. A. D., for teaching us when to commence cutting barley. it has saved us the cash that would have gone for many a blade of fodder, besides some bushels of grain. The hay saved from our rough meadows and branch bottoms, cut up with a small portion of this barley, and a little corn and cob meal added, has deprived the tanner of many cow and calf hides, with which we should otherwise have supplied him. To a small patch of lucerne, which we commenced cutting the second time on the first of May, are we also indebted for saving some of our weaker stock from "going the way of all flesh."

Agricultural Chemistry.

Soil.—In a state of nature, or without the aid of cultivation, the soil will produce the greatest abundance, those plants best adapted to its chemical condition.—This condition of the soil can be changed by art, and frequently *must* be, before the husbandman can realize any benefit as the result of cultivation. Great and important changes are continually and often imperceptibly going on, in the chemical constitution of the soil; many of the changes, if observed, would perhaps furnish frequent and important lessons in agriculture.

A vegetable may spring up spontaneously, and in great perfection, in a particular soil, but by absorbing more of the necessary ingredients for its reproduction than it gives back to the earth, it may produce a chemical change wholly unfitted for its growth and the plant will disappear and gives place to other harmonizing with the new chemical arrangement. If plants were allowed to grow and mature, and the straw and stalks, and the more valuable part, the ear and grain which are generally withdrawn, were suffered to decay upon the land, it would improve in richness, and with most plants would furnish the elements of their reproduction in greater abundance, as plants absorb a portion of the gasses which enter into their organization from the atmosphere, and which may, upon decay, impart a greater proportion to the soil than was withdrawn, and its capacity to reproduce the kind may be increased. But in husbandry, the most valuable portion of the produce of the soil is withdrawn from the market, and not even the refuse in many cases finds its way back again to the field from which it was taken. It will be necessary to supply the chemical exhaustion by some artificial means, or the crop will soon fail altogether. and as most of the grains and vegetables grown by the farmer depend upon similar chemical condition in different proportions of combination, the entire exhaustion of the soil in any particular ingredient may not only be fatal to one, but injurious to all crops until the chemical equilibrium is restored. This can easily be done by the scientific farmer by the proper application of manures.

Manure is applied to the soil not only to restore the exhaustion attendant on producing a given crop, but to increase its capacity to yield the valuable part of plant in more abundance. Thus in growing a crop of wheat, for example, the labor is nearly the same in preparing the soil, and the cost of the seed nearly the same, to get fifteen bushels from the acre as to get thirty or forty, by supplying to the soil those chemical ingredients that enter largely into the substance of wheat, and to produce the gasses essential to its growth and food. Farmers are content generally to get from fifteen to twenty bushels from the acre, because, they say, that fifteen bushels of wheat is worth more than forty bushels of oats, or two tons of hay. Now the question is, may not the farmer increase his crop of wheat to thirty or forty bushels from the acre and improve the quality twenty per cent., by applying lime, ashes, or some other chemicel aid favorable to its production, and by laying out but a tithe of the extra profit. A large proportion of the soil of Vermont is ill adapted to the culture of wheat. but not the greatest proportion. Almost every farm has soil congenial to wheat, and with proper preparation, could raise sufficient for domestic consumption.

Formers should select such portions of their farms as observation has shown to be most favorable to wheat, especially is this the best guide for those who have not the chemical knowledge to enable them to make a scientific selection.—Clayey loam appears to be best adapted of all old soils. Hard wood-land, newly cleared, being rich in vegetable manure and wood ashes, is always sure, unless blighted by drought or some other cause not attributable to the soil. And probably any soil consisting of a clay loam, with the usual quantity of vegetable or animal manure, next after a crop of Indian corn, with a dressing of five bushels of lime, or fifteen or twenty bushels of hard wood ashes to the acre, would return at harvest the extra expenditure twenty fold. Lime and ashes are always

to be had, and the application is extremely simple and easy, and acts upon the plant immediately producing, in a few days, a vigorous growth and a dark green color. This rapid growth easily overcomes the ravages of small insects, brings the grain to maturity early, and with all the functions of the plant perfect to produce a large plump kernel, rich in glutin, starch and sugar.—*Green Mountain Farmer.*

Rail Road.

Every one who has had to go to the head of the road for corn, or for meat, or for anything else, is crying out, oh! what a fine thing the Rail Road is;—what would the people do this scarce year, if it were not for the Rail Road? It is said, and to the truth of it we subscribe most heartily, that every calamity or adversity visited upon a people is intended to teach them some instructive lesson, from which they should profit and improve. Who knows, but that amongst other things, the present great scarcity in provision is sent upon us, to teach us to appreciate the advantages and blessings which flow from Rail Roads; and to admonish us, each and every one of us, that it is our duty to step forward and lend a helping hand in all such noble and beneficial enterprises. Doubtless, many a man is feeding himself, his family and stock with convenience, ease and comparative cheapness from the head of this road, who not only did not subscribe one dollar towards its construction, but who *hooted* at, and ridiculed the very idea of building one. All such should feel rebuked;—should be thankful for the benefits conferred, and should resolve in future to countenance and advocate in word and deed, all enterprises promising good to themselves and their fellow men. When a call is made to aid in the extension of this road through the Rabun Gap, to connect with other roads penetrating the very centre and heart of the grain and provision sections, which can then be transported to us in much greater abundance, and at considerably less cost, it is hoped, that they, to a man, will open wide their hearts and their purses, and by their subscriptions signify their appreciation of the advantages and benefits of Rail Road facilities.—*Abbeville Banner.*

Tobacco.

Mr. Editor:—Knowing that your columns are thrown open to a wide range of subjects, I would offer a few remarks on the mastication, puffing, and snuffing of tobacco. I can sympathise with those that are accustomed to its use, having once been a chewer myself, and must be excused if I aim a blow at a long and cherished practice, that I know from experience to be extrememely pernicious. The effects of tobacco upon the human system are so nearly allied to the inebriate's cups, that there can be no impropriety in classing it in the same category with intoxicating drinks. I do not say it has precisely the same effect upon those who use it, but that it is highly exhilerating, while it is at the same time a narcotic, none will deny. It is also an absolute poison: a very moderate quantity introduced into the system, even a few leaves applied to the stomach, often produces convulsions and death. It must then be obvious to every thinking mind, that the constant use of tobacco, mixed with the saliva, finds it way into the stomach impairs the functions of that important organ; hence, most if not all those who are accustomed to the use of tobacco labor under dyspeptic symtoms. They experience at intervals a want of appetite, vicious taste in the mouth in the morning, nausea, inordinate thirst, pains, and distention of the stomach, dizziness, and sensation of fulness in the head, tremors of the limbs, disturbed sleep and incubus, and more or less amaciated.—Every person who uses tobacco in considerable quantities and for any length of time, will tell you that some of the above consequences will follow its use just as certain as effects follows causes.

Tobacco chewing, smoking and snuffing are habits acquired. No person, I believe will undertake to say that the first piece he ever used was pleasant to the taste, and that he could "roll it as a sweet morsel under his tongue!" No, every man will tell you that its first use was nauseous and offensive, but by perseverance he soon felt its exhilerating effects, and by degrees came to love that which was at first so disagreeable. At this point he is prepared to form an alliance with, and be in league with strong drinks, and he who does not keep himself aloof from such an alliance, must stand strong in the temperance faith, or he will founder on the breakers where many have perished! So strong a connection exists between tobacco and alcoholic drinks, that he who uses the former is seldom unacquainted with the latter. This fact should admonish us not to make too free use of that which is a fit companion of strong drink. But aside from all this, just look at the tobacco chewer as he is, with his fetid breath, meeting you with its sirocco blasts every time you happen to be in the wake of the wind!—see the disgusting fluid oozing out at each corner of his mouth, with a few drops, perhaps, scattered in your face, if he attempts to speak to you! His cud is his god; he will toil by day; he will compass both sea and land to obtain it, make himself more disgusting to his wife, if he has one, knowing that her puny arm must be his *scavenger!* Whatever is said of the chewer may be said of the smoker; the one nauseates your stomach by belching forth streams of disgusting lava, the other rendering the air pestiferous to our nasal organs, both the smoker and the chewer's mouth being filled with the quintessence of nastiness!—*Green Mounatin Farmer.*

EDITORS' TABLE.

Agent for the Farmer and Planter.—We have recently appointed Mr. H. P. Douther, of Tuskaloosa, Alabama, our agent for procuring subscribers to the Farmer and Planter, in Alabama, and other States, in which he may travel. He is authorized to make collections and to give receipts for the same.

Seaborn & Gilman.

To Correspondents.

With our next number we will commence publishing a list of all letters received after this time, with answers to such as require them—unless the writer requests a promt and private answer. This will prevent the necessity of writing receipts. When the receipt of a letter has been acknowledged, the writer may take it for granted that the amount enclosed has been passed to his credit, unless he is notified to the contrary.

Catalogues.—Persons wishing Messrs. Sinclair & Co.'s Catalogue, will please address them at Baltimore. Md., as directed in his advertisement. We have not received any of them.

Exchanges.

The Georgia Home Gazette, Edited by Maj. R. A. Whyte and Col. James M. Smyth, who is well known to many of our readers as an able and foreible writer. We are pleased to place the Gazette on our exchange list, and do recommend it with much confidence to our friends. "It is devoted to the literature of the home circle." Augusta, Ga.

The Georgia University Magazine—No. 2, of Vol. 3. of this very neat and creditable paper, which we believe we have neglected to notice heretofore, has come to hand. "The Georgia University Magazine" is conducted by the Senior Class of Franklin College. It is published monthly during the Collegiate terms.—Five numbers complete a volume. Two volumes a year. Terms two dollars a year, or one dollar a volume—single copies, twenty-five cents. Thirty-two pages, Octavo. Published by Christie & Kelsea, Athens, Ga.

An Acceptable Present.

Our table was graced, and our appetites sharpened yesterday, with as fine a mess of Irish potatoes, of this spring's growth, from the garden of our friend, J. W. EPPES, as it has been our lot to see for some time. The value of the gift was greatly enhanced by the scarcity of vegetables of almost every kind on our table this year. Mr. E. will please accept our thanks and best wishes that his pecuniary affairs may be as prolific as his potato patch.—*Laurensville Herald, 14th of May.*

REMARKS.—A little ahead of us, Mr. Herald, one day only. We had a fine mess from *our own* garden on the 15th, besides, we counted six other kinds of garden vegetables, including a head of cabbage, and beets nine inches in circumference on our table at the same time; a God send when hog meat is so scarce and beef out of the question. EDS. F. & P.

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Postage.

Some of our subscribers think they are charged too much postage on the Farmer and Planter The postage on it for *one quarter* (three months) is as follows:

Under 50 miles	1¼ cents.
Over 50 and not over 300	2½ "
Over 300 and not over 1000	3½ "
Over 1000 and not over 2000	5 "
Over 2000 and not over 4000	6¼ "
Over 4000	7½ "

MASONIC NOTICE.

THE next Regular Communication of PENDLETON LODGE, No. 34, A.·. F.·. M.·., will be held on Wednesday evening, 2nd of June. By order of the W.·. M.·.

W. H. D. GAILLARD,
Secretary.

Land for Sale in Pickens District.

THE Subscriber offers for Sale the Tract of Land on which he now resides, lying in the fork of Seneca and Tugaloo rivers, on the main road from Pendleton to Carnsville, and twelve miles from the former place, containing nine hundred (900) acres; about one hundred (100) of which is Beaverdam Bottom. The place has on it a large and comfortable Dwelling House, a good Kitchen, and all other necessary out buildings. The site is a beautiful one, the water fine, and the place as healthy as any in the District. To a purchaser the crop now growing on the place will be sold, if desired, on the most favorable terms.

I. G. GAMBRELL.

Pendleton, S. C., Aug. 13, 1851.